PLATE II.

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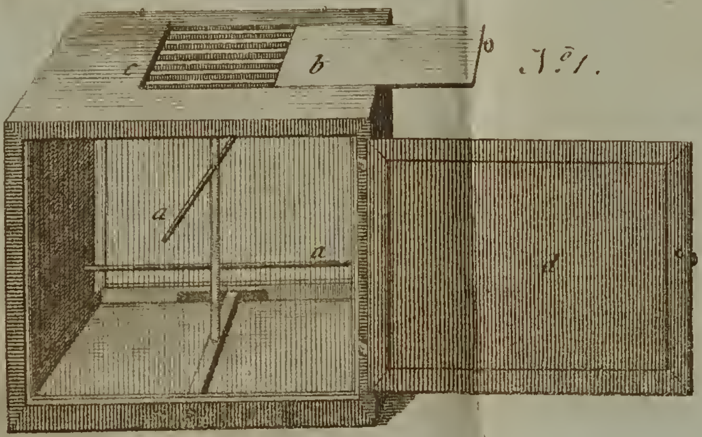

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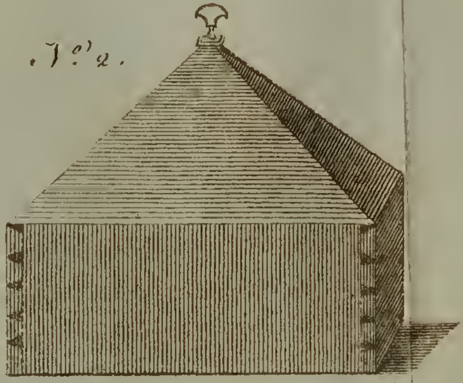

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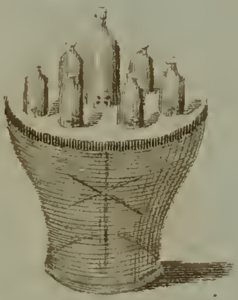

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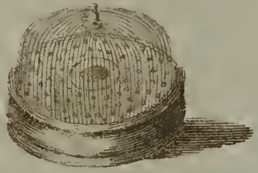

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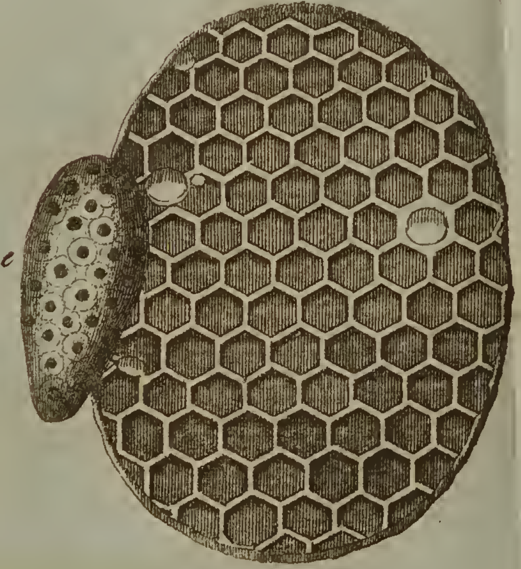

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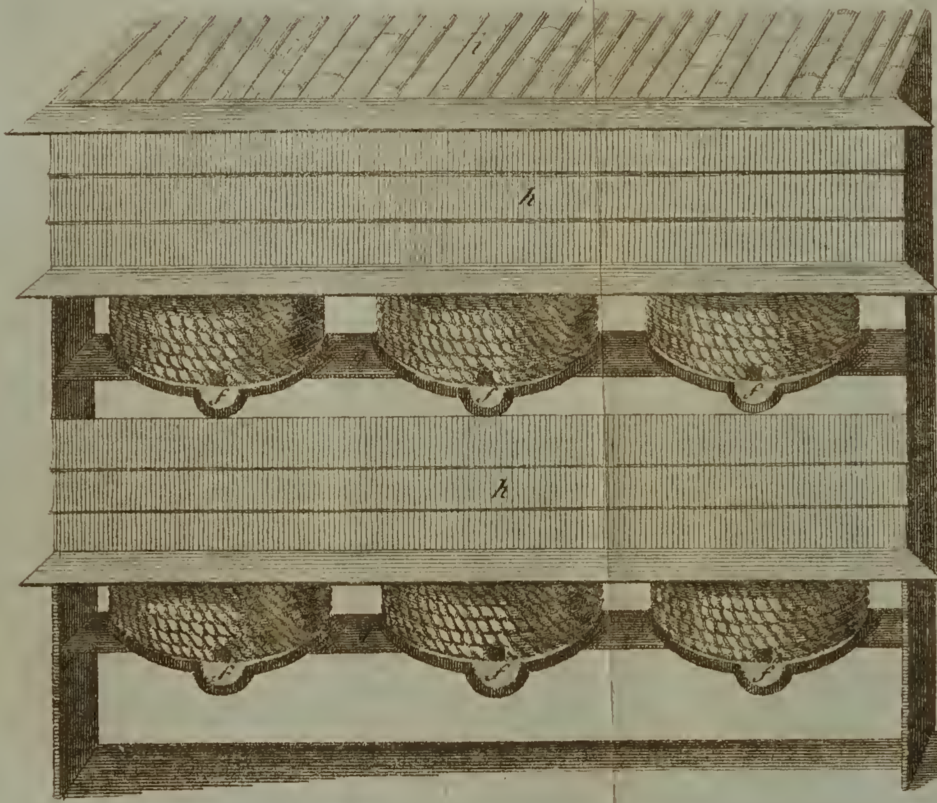

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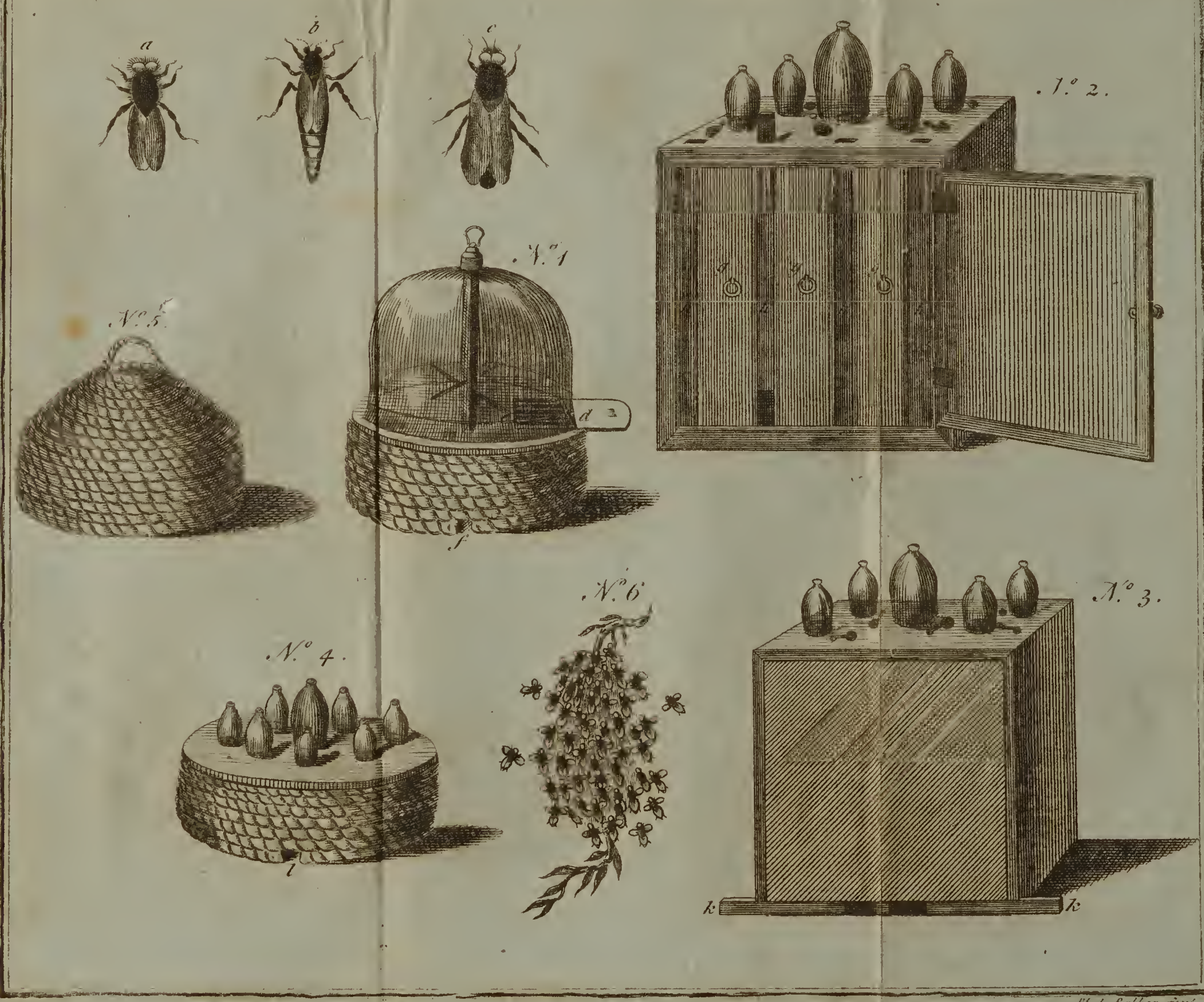
PLATE I.



Bt de Bakker, fecit.

10

A
COMPLETE GUIDE
FOR THE
MANAGEMENT
OF
BEES
THROUGHOUT THE YEAR;

CONTAINING

1. A Deſcription of the new-invented Hives, and the Manner of uſing them, ſo as to take the Honey and Wax without deſtroying the Bees.
2. Deſcription of the new invented Bee-Houſe, and its moſt proper Situation.
3. The proper Method of Swarming and Hiving Bees.
4. Of ſeparating the Honey from the Wax.
5. Of feeding Bees in the Winter.
6. Of the Enemies and Diſeaſes to which Bees are ſubject, and their Remedies.
7. Of the Queen Bee, working Bee and Drone.
8. Of the Generation of Bees.
9. Directions to make Mead.

By DANIEL WILDMAN.

The SIXTEENTH EDITION with ADDITIONS.
Illuſtrated with COPPER-PLATES.

> ——— So work the Honey Bees;
> Creatures that, by Rule in Nature, teach
> The Art of Order to a peopled Kingdom.
> SHAKESPEAR.

LONDON:
Printed for the AUTHOR, and Sold by him at his Bee and Honey Warehouſe, No. 326, HOLBORN.
Where the pureſt Virgin Honey may be had, and any Quantity of the new-invented Hives on the ſhorteſt Notice.
1802.

[PRICE TWO SHILLINGS AND SIXPENCE.]

Printed by T. Jones, Fetter-Lane,

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EXPLANATION of the PLATES.

PLATE I.

a. The working Bee.
b. The Queen
c. The Drone.

No. 1. The flat-topped Straw Hive, with a Slider and large Glaſs on the Top.—*d* the Slider; *e* the Grate for Communication through which the Bees aſcend into the Glaſs or Hive; *f* the Door or Entrance into the Hive.

No. 2. The Mahogany Hive with Partitions, and Glaſſes on the Top.—*g g g* are the Partitions; *h h h h* are the narrow Sliders that draw out at Top, to facilitate the taking out of the Partitions.

No. 3. The Mahogany Hive with Glaſſes on the Top, without Partitions.—*i* is the Side that is to be placed next the Window; *k* the Slider that either adds to or diminiſhes the Size of the Door or Entrance into the Hive. In the Winter it ſhould be ſhut almoſt cloſe, to keep out the Cold; in the Summer draw it out as far as you can, to give the Bees more Air, and a free Paſſage in and out of the Hive.

No. 4. The flat-topped Straw Hive, with Glaſſes on the Top.—*l* is the Door or Entrance.

No. 5. The common Straw Hive, in which Bees have been kept in moſt Parts of the known World, until within this 30 Years paſt, that my flat-topped Hive, No. 1. Plate I. hath been found much ſuperior, as will appear in the following Pages. I now only recommend it as a Cover to darken the Glaſſes that are ſet on the flat-topped Straw Hives in Plate I.

No. 6. A Swarm of Bees ſettled round the Bough of a Tree in a Cluſter, hanging one by another in the uſual Way. See p. 29.

PLATE II.

No. 1. An inſide View of the flat-topped Mahogany Hive, which is to be placed under either of the Mahogany Hives in Plate I.—*a a* are the Croſs Sticks to which the Bees faſten their Combs; *b* the Slider, and *c* the Grate for Communication with the other Hive; *d* the Door that ſhuts over the Glaſs to keep out the Light, except at ſuch Times as you chooſe to ſee them at work.

No, 2. The Mahogany Cover to darken the Glaſſes that are ſet on the Top of either of the Mahogany Hives in Plate I.

No. 3. A circular Glaſs, open at both Ends; on the upper End there is a round Board, in which there are ſeven Holes for Communication with the Glaſſes that are ſet thereon. This additional Set of Glaſſes may be placed over the center Hole on the Top of any of the Hives with ſmall Glaſſes. By taking the center Glaſs away, and placing them in its ſtead, they will have a pretty Appearance, the Bees will be furniſhed with more Room, and their Owner with a greater ſupply of Honey.

No. 4. A proper Machine for feeding Bees, either in the Mahogany or flat-topped Straw Hives.

No. 5. The Honey Comb.—*e* the Queen's Cell.

No. 6. The front View of a Bee-Houſe for ſix Hives or Colonies.—*ffffff* are round Boards to contain the Hives, with ſemicircular Projections for the Bees to walk upon when they go in and out of the Hives; *gg* are the narrow Shelves on which the round Boards and Hives muſt be placed: *hh* is common Weather Boarding to keep the Rain from the Hives; *i* is the Roof, which may be cover'd to your own Mind, either with Weather Boarding, Tiles, or Slate, but take Care to place them ſo as they will carry off all the Wet from the Bees.

INTRODUCTION.

THE following Pages would never have made their Appearance in public, had it not been at the earneſt Solicitation of ſeveral of the Nobility and principal People of this and other Kingdoms, who have made the Management of Bees their peculiar Study and Entertainment, and who continuing to favour me with their Commands for my new-invented Hives, have frequently hinted to me that a Treatiſe on my own peculiar Method; with an Explanation of the Uſe of the Mahogany, Glaſs, and Straw Hives, would meet with a favourable Reception at their Hands. The Obligations I think myſelf under to my numerous Encouragers, have induced me thus far to point out the moſt rational and beneficial Manner of managing Bees; and I hope that Part of my Readers for whoſe Uſe it is principally deſigned will kindly accept my Endeavours to ſatisfy them on this Subject.

In the Year 1798 I purchaſed a Glaſs of Honey that was filled in one Month, by a Gentleman's Bees, fifty Miles from *London*, and kept it ſome Time at my Warehouſe in *Holborn*, for the Inſpection of the Curious; it contained ſixty-three Pounds of exceeding fine Honey-comb; the Hive it was taken off had more Honey left in it, than would ſerve the Bees to live on in the Winter. The principal Paſturage near his Apiary was Field Beans, Dutch Clover, Sainfoin, and mowing Graſs, with a Succeſſion of Flowers. This proves what a quantity of Honey and Wax the Bees will gather in a fine Seaſon, when the Situation is good, the Weather favourable, and the Colony well ſtocked with Bees; and it is well known that *Ruſſia*, *Poland*, *Germany*, and other Countries, make great Revenues by my Method of managing Bees; many thouſand Pounds are paid annually for foreign Honey and Wax that is imported into this Country, and it is certain it would be a great Advantage to this Kingdom, if the keeping of Bees was more general.

That the Majeſty of our Almighty Maker is manifeſted in every created Being, is a Fact abſolutely indiſputable; but that it is more peculiarly ſo in the Inſect which is the Object of the preſent Diſcourſe, muſt be allowed by every one who will give themſelves Time to reflect on the nice geometrical Proportions (obvious to every curious Obſerver) in which the Bees ſo wonderfully diſplay their architectural Skill in the Formation of their ſexangular Comb; nor is their well regulated Syſtem of Government, their Labour, and every Property with which they are endued, leſs deſerving our Admiration.

To expatiate on the Excellency of Bees, their Name, Definition, Deſcription, Politics, &c. would require much more Room than a Book of this Size will admit of; and as theſe have been treated of at large by others, I ſhall only quote their Opinions where they coincide with my own, and principally confine myſelf to the following Particulars.

A COMPLETE GUIDE, &c.

CHAPTER I.

DESCRIPTION *of the* NEW-INVENTED HIVES *aud Manner of uſing of them, ſo as to take the* Honey *and* Wax *without deſtroying the* BEES.

NUMBER I.

PLATE I.

The flat-topped Straw Hive, with a Slider and large Glaſs on the Top.

THIS Hive, though of a very plain Conſtruction, and eaſy Price, is extremely convenient and beneficial, and the Advantages ariſing from the Uſe it are ſuch as muſt appear obvious to every one at firſt Sight; for it not only gives us an Opportunity of taking a treble Quantity of Honey to what we ſhould otherwiſe do, but is likewiſe a great Means of preſerving the Bees in the Winter; and is principally deſigned for the better taking the Honey and Wax, (without killing the Bees) either by forming a Colony with three of theſe Hives, or placing a large Glaſs on the Top of one of them, which is much the beſt way, as you will not only have the Pleaſure of ſeeing the Bees at work, but the Honey will be much finer than that made in common Hives, and conſequently of greater Value.

When the Bees ſwarm, hive them in the flat topped Hive; and let the Slider *(d)* be ſhut cloſe to prevent the Bees paſſing through when hived into it: When they are ſettled in the Evening, move them into the Bee-Houſe, or Place where you propoſe them to ſtand, draw back the Slider till it clears the Grate, and ſet on the Glaſs, which muſt be covered with a round topped Straw Hive, No. 5. Plate I. to darken it, except at ſuch Times as you chuſe to admire the Bees at work in the Glaſs; when the Glaſs is compleatly filled with Honey, if the Bees do not leave it, and you obſerve them lying in a Cluſter on the Outſide of the Hive add another flat-topped Hive underneath, and the Bees will ſoon quit the Glaſs to work below, you may then ſhut to the the Slider *(d)* of the top Hive and take the Glaſs of Honey away, after which you may ſet on another Glaſs, or take the Honey out of the ſame, and replace it, and the Bees will fill it again as before. But if you have no Glaſs, let the Bees work in this Hive about three Weeks, in which Time, if the Seaſon is good, and the Weather favourable, they will have filled the Hive as full as poſſible. Was it to ſtand in that Manner the whole Seaſon, they could never fill it with Honey and Wax, as there muſt be Room in the Hive to contain themſelves.

Therefore, in order to have your Hive compleatly filled, and the Opportunity of taking it away without injuring the Bees, at three Weeks End, if you find that Hive is well ſtored, and the Bees want more Room, let it be lifted up gently in the Evening, and place under it another flat-topped Straw Hive.

Either draw back the Slider *(d)* till it is clear of the Grate, or take it quite out, and be careful to place the Door of your top Hive directly over the Grate, and let it and the Vacancy be ſtopped up cloſe with Clay or Mortar; at the ſame Time plaiſter a little round the Skirts of the Hive, as by ſo doing you will keep out the Moths and all Kinds of Vermin. If the Weather continues favourable, you will in a ſhort Time perceive the Bees want more Room; then (but not before) let them be lifted up again, and add another flat-topped Straw Hive, uſing the ſame Precaution in placing it properly underneath as before directed.

In the Courſe of a Fortnight or three Weeks you may examine whether the Bees have worked themſelves out of the upper Hive, and if you find they are all got into the under Hives, it will be a ſufficient Proof they have finiſhed their Works above, as they never entirely quit the top Hive before it is filled with Honey; then ſhut to the Slider *(d)* to cut off their Communication with the top Hive thus filled. If you ſhould find a few ſtraggling Bees left in the top Hive, when you take it away, you may very eaſily get rid of them, by letting it remain about 2 or 3 Hours on the other two-flat Hives after you have ſhut to the Slider; but don't forget to unſtop the Door of the top Hive, and then the Bees (if any) having no other Way, will come out at it, take a Flight in the Garden, and, on their Return, enter at the Door of the bottom

Hives as uſual: you may then take the top Hive of Honey entirely away. Or, if you take the Hive at firſt eight or ten Yards from the Place where it ſtood, turn it Bottom upwards, and ſhake it gently to diſturb the Bees, they will very ſoon leave it, and fly Home to join their Companions in the other Hives. The Middle of a fine Day is the moſt proper Time to do this, becauſe the greateſt Part of the Bees are then at Work.

When you have taken the top Hive away you may examine the other two Hives by lifting them up and looking underneath; if you find them well-ſtored with Honey, the Bees at work in the bottom Hive, and appear to want more Room (and the Seaſon not too far gone) add another flat-topped Hive underneath, as before directed. By this Method you can take the top Hives of Honey away as faſt as they can fill them, and you can place a Glaſs on the top whenever you think proper.

So much for Swarms: now for the old Stock in a round-topped Hive.

About ten Days after it hath turned out the firſt Swarm, which in general will be in the Month of *May*, you muſt raiſe it upon the flat-topped Straw Hive, to prevent its ſwarming again; for ſecond and third Swarms are very ſmall and of little Worth, but they weaken the old Stock very much. When they want more Room, which you will know by their lying on the outſide of the Hive, add another flat Hive: by this Means you will prevent their ſwarming, enrich the Colony, and enable yourſelf to take their old round Hive full of Honey, as ſoon as they have worked themſelves down in the two bottom Hives, by ſhutting to the Slider *(d)*; you may then ſet on a Glaſs in the ſame Manner as before directed for the Swarm, and manage it in the ſame way. Never raiſe them after the Month of *Auguſt*; but on the contrary, if they have not done much Work in the bottom Hive, it ſhould be taken away, and ſet carefully by until the next Spring. Keep the Bees in as little Compaſs as you can, during the Winter, that they may be the better able to defend themſelves againſt their Enemies and Robbers.

By proceeding in this Manner, you keep the induſtrious Bees continually ſupplied with Room, as they would much rather work than lie idle, and you likewiſe have the Opportunity of taking away the Honey and Wax as faſt as they can gather it. I cannot be certain in the Quantity you will take, as it depends ſo much upon the Goodneſs of the Seaſon, which ſometimes will admit of only taking one Hive, ſometimes a Hive and Glaſs, and poſſibly more, if you raiſe the Hive before it ſwarms, which is the beſt way, if you do not want to increaſe your Number of Hives or Colonies. This is to be done in the Months of *June* and *July*. I would never recommend the taking away more Honey than the Bees can ſpare after *July*, leſt the Autumn ſhould prove unfavourable, and the Bees want it for Suſtenance in the Winter.

NUMBER II.

PLATE I.

The Mahogany Hive, with Partitions, and Glaſſes on the Top.

THIS Hive is of a very curious and elegrant Conſtruction, ſuitable either for the Parlour or Chamber, and is one of the moſt ingenious Productions for the Purpoſe for which it is intended, ever yet invented: There are five Glaſſes on the Top of it for the Bees to work in, which are to be taken away when filled with Honey. To prevent the Bees getting out on removing theſe Glaſſes, you may ſhut them in with the moveable Buttons, or place freſh Glaſſes in the Room of thoſe you take away. Thus, beſides the Opportunity it gives of taking the Honey in ſmall Quantities, and having it always freſh and pure, you will have the agreeable Entertainment of obſerving the curious Manner in which they conſtruct their Combs, and with what nice Order and Sagacity they depoſit their Honey. The Hive itſelf is ſquare, and is provided in the inſide with three ſliding Partitions *(ggg)* in which the Bees are obliged to work, if you do not continually ſupply them with Glaſſes on the Top; and you have alſo the Opportunity of ſeeing them at work in the different Partitions, by opening the Side Doors, as the Bees are incloſed with large Panes of Glaſs on each Side.

When you perceive the Bees in this Hive to want more Room than you can conveniently give them with Glaſſes, ſhut to the Slider to the Door or Entrance of the Hive, and let it be raiſed on the flat-topped Mahogany Hive, No. 1. Plate II. There are two Wires fixed in the Top of this Hive, and fitted into the Holes at the Bottom of the upper Hive, which keeps them ſteady. When you have properly placed the Hive, draw out the Slider at the Bottom of the upper Hive, 'till it correſponds with that in the Top of the flat topped Hive *(b)*, that the Bees may have a free Paſſage down through the Grate; then open the Slider at the Door or Entrance of the bottom Hive, and the Bees will go out at it to work the next Morning.

The Method of taking the Comb out of the Partitions is thus: When they have filled one Partition they leave it, and go to work in another; you may then take the full one, and having emptied it by cutting out the Comb, put the Partition into its proper Place again. The Bees, in the mean Time, will continue to work in the other Partitions and bottom Hive till they have filled them, and will then return to the empty one. It may ſometimes happen that a Comb projects a little over the Edge of the Partition, ſo as to obſtruct its coming out; but this Obſtruction will be removed entirely, and you may with Eaſe draw out the Partitions as faſt as they can fill them by taking up the narrow upright Sliders *(hhhh)* between the Partitions: So that notwithſtanding the Smallneſs of the two Hives, the Bees will never ceaſe working through want of Room, as is frequently the Caſe in other Hives.

To uſe this Hive you muſt firſt have a little Shelf fixed to the Bottom of a Window, where you propoſe to have it ſtand, and take Care to place it quite even and cloſe to the Saſh on the Inſide, in the Bottom of which there muſt be a Hole cut out, anſwerable to that in the Hive made by the Slider. The little ſemicircular Board muſt be fixed on the Outſide quite even with the Bottom of the Hole, that the Bees may have a free Paſſage in and out.

When you hive a Swarm into one of theſe Hives, open one of the Side Doors, and take out the Glaſs, which is only faſtened in with Tacks, and ſecuring the outer Doors and the Buttons on the Top, hold the open Side of the Hive under the Bees and ſhake them into it, as you would into a common Hive, and they will take to it equally the ſame. In the Evening, when the ſide Glaſs is replaced, move aſide the Buttons, and ſet on the top Glaſſes; then put on the Mahogany Cover, (No 2, Plate II.) that they may be properly darkened, otherwiſe they will not work in them at firſt; but you may afterwards look at them as often as you pleaſe.

NUMBER III.

PLATE I.

The Mahogany Hive with Glaſſes on the Top, without Partitions.

THIS Hive anſwers every Purpoſe of ſeeing the Bees work, but we have not the Opportunity of taking the Honey ſo often out of the Hive itſelf, as from that of No. 2. with the Partitions; nor indeed will it be neceſſary to do it oftener than once in two Years, as there cannot poſſibly be a more convenient Way of taking the Honey in ſmall Quantities, and having it always freſh and pure, than that of the ſmall Glaſſes on the Top; and if you are not ſufficiently ſupplied with the Change of Five, take the middle one away, and ſet in the Place of it the circular Glaſs, No. 3, Plate II. which is open at both Ends. On the upper End there is a round Board, in which there are ſeven Holes, for Communication with the Glaſſes that are ſet thereon: by this Addition, the Bees are furniſhed with more Room, and there is not the leaſt Doubt but they will afford you a greater Supply, only take Care to darken them with a deeper Cover. The principal Reaſon for taking the Honey out of the Hive once in two Years, is, that the Combs therein may be taken out while they remain white and fine.

This Hive is likewiſe ſquare: *i*, the Side that is to be placed againſt the Window, to which it muſt be fixed quite cloſe, in the ſame Manner as before directed for that of No. 2. There are Doors in the other three Sides, and the Bees are incloſed with large Panes of Glaſs. When you open theſe Doors and take the Cover off the Glaſſes on the Top, you have the moſt entertaining View imaginable of the Bees at work in the Hive itſelf, as well as in the Glaſſes, which are to be taken away as faſt as the Bees fill them with Honey. At the Bottom of this Hive there is a broad Slider, which muſt be taken out when you hive the Bees, inſtead of taking out one of the Side Glaſſes. When you would take the Honey from the Hive itſelf, or give the Bees ſtill more Room, in the Evening ſhut to the narrow Slider *(kk)* and let the Hive be raiſed upon the flat-topp'd Mahogany Hive No. I. Plate II. Draw back the Slider *b*, likewiſe the Slider at the Bottom of the upper Hive, and the Bees, if the Weather continues fine, and you don't ſupply them with Glaſſes on the Top, will very ſoon work themſelves down into the Bottom Hive; you may then ſhut to the Slider *b*, and take the top Hive away. When you have taken out the Honey and Wax, let the Hive be made clean, replace the Glaſſes on the Top, and ſet it on the flat-top'd Hive again; then draw back the Sliders, and the Bees will go up to work as before.

NUMBER IV.

PLATE I.

The flat-topp'd Straw-Hive, with Glaſſes on the Top.

THIS Hive is admirably well contrived for the Garden. It is provided with eight Glaſſes on the Top, where the Swarm generally begins to work. You may place more as you ſee the Bees increaſe in Number, by taking away the middle Glaſs, and puting in its Place the circular Glaſs, No. 3, Plate II.

If the Bees remain in the additional Set of Glaſſes after they have filled them with Honey, it will be a certain Proof they want more Room; therefore, in ſuch Caſe, let this Set be raiſed upon a larger one of the ſame Sort, and the Bees will preſently quit the above to work in their new Habitation. Theſe additional Sets of Glaſſes will form a very elegant Pyramid, and, when well furniſhed with Bees, will have a beautiful Appearance. They ſhould always be kept covered over with a large round-topp'd Straw Hive, to darken them, unleſs at ſuch Times as you would chuſe to ſee their Manner of working. The Method of taking the Honey by the Glaſſes is as before directed, only, as there are no Buttons to the Top of the Hive, you muſt always have a ſpare Glaſs ready to place in the Room of that you take away. If there ſhould be a few ſtraggling Bees in the Glaſs thus taken away, ſet it Bottom upwards, in a ſhady Place a little Diſtance from the Hive, and the Bees will ſoon take Wing, and fly to join their Companions. About the Month of *July*, ſhould the Swarm be very numerous, this Hive ſhould be raiſed upon one of my flat-topp'd Straw Hives with the Slider, that the Bees may have ſufficient Room to ſtore Honey enough for their Subſiſtence in the Winter.

When you put a Swarm into this Hive, put a Board over the Holes, to prevent the Bees paſſing through when you ſhake them into it. As ſoon as the Bees are ſettled, in the Duſk of the Evening, take off the Board and ſlip on the Glaſſes, covering them over as before directed; then move them into the Bee-houſe, or Place where they are to remain.

I have thus far acquainted the curious Reader with the real Uſes of my new-invented Mahogany, Glaſs, and Straw Hives, ſo much approved of by the Nobility, Gentry, and others, and by which the Lives of thoſe uſeful, induſtrious, and admired Inſects, the Bees, are ſaved from that cruel and barbarous Way of ſmothering them with Brimſtone, to take their Honey. The next Thing that will be wanted is a proper Bee-houſe for the Straw Hives;

Hives; therefore, in the following Chapter, I ſhall fully deſcribe one that I have found by Experience to anſwer every Purpoſe I could wiſh, for my Straw Hives; and as Bees even in common Hives, at all Seaſons of the Year, require to be ſheltered from the Violence of the Weather, I would recommend it for them, for in the End it will be found not only the beſt, but the cheapeſt Way of preſerving them.

CHAPTER II.

DESCRIPTION *of the new-invented* BEE-HOUSE, *and its moſt proper Situation.*

I Shall here give a very uſeful, eaſy and cheap Method to make a Bee-houſe upon a new Conſtruction, for ſix Hives or Colonies:

Firſt get two Boards, one Inch and a Half thick, twenty Inches wide, and ſeven Feet long. Theſe Boards are for the Two Ends. Then meaſure ten Inches from the End you propoſe to ſtand upon the Ground, and nail a Ledge ſtrait acroſs the Board, as it may be a Means of keeping it from warping, as well as to ſupport the firſt Shelf; then meaſure from this Ledge three Feet more, and nail another in the ſame Manner, to ſupport the other Shelf; then put two Ledges on the other End Board, to correſpond with the former, and get two Shelves five feet long, an Inch and a Half thick, and ten Inches wide; let the Ends be made ſquare, and both the Shelves exactly the ſame Length; then ſet the two End Boards upright, and lay the Shelves upon the Ledges, and in the Middle of the End Boards, and nail them all firmly together. Having thus got both Ends of the Houſe upright, and the two Shelves (*gg*, No. 6. Plate II.) fixed therein, Weather-board the Front. Let the bottom Edge of the firſt Board in each Part of Weather-boarding (*hh*) be put ſix Inches above the Shelves (*gg*) and project forwards with a Deſcent four Inches, to keep the driving Rains from the Hives; the Reſt of the Boarding to go upright in the common Way; *i* is the Roof, to be made ſloping, and cover'd to your own Mind, either with Weather-boarding, Tiles or Slate; but take Care they are ſo placed as to let no Wet get through to the Bees. It will not be amiſs to fix a little Gutter along the Front, to carry off at one End the Water that will run down the Roof. You now want two folding Doors at the back Part, to ſhut cloſe together, which may be made of half-inch Deal fram'd: let them be put on with two Hinges and faſtened with a Haſp and Padlock on the Outſide. We will now ſuppoſe the Houſe compleatly finiſhed, and, with a good Coat of Paint it will laſt for many Years.

I ſhall now give a few Reaſons for making my Bee-houſe on ſo different a Conſtruction to what has been propoſed by other Authors. You'll obſerve, that I recommend the ſetting of each Hive or Colony upon a round Board, the Diameter of which ſhould be ſeventeen Inches (to contain the Hive) with a ſemicircular Projection, and that Board upon a Shelf that is only ten Inches wide; for the Bees, when placed upon a broad Board, have a ſtrait road to walk upon from one Hive to the other, and the ſtrongeſt Stocks are continually robbing the weaker ones, if they don't kill them at the ſame Time, which very likely may be the Caſe, for they will fight to protect their Property, ſo juſtly purchaſed by their hard Labour. But ſuppoſing them to be only robbed, at a Time of the Year that they cannot provide for themſelves, they muſt certainly die through Want. But this Method of robbing is prevented by the broad circular Boards *(ffffff)* that are placed upon the narrow Shelves *(gg)*; for there is nothing for them now to walk upon, unleſs they go round by the narrow Shelf, which is a very impracticable Road, and too great a Journey for them to walk. Another Advantage is, that when you want to cleanſe, repair, alter, or remove your Houſe, or do any Thing to the Hives, you can in the Evening take out the Hives and Boards all together, without diſturbing the Bees in the leaſt. With an Houſe on this Conſtruction the Bees are kept warm and dry in the Winter, and in the Heat of Summer are greatly refreſhed by the cool Breezes that will draw in and circulate between the Hives.

The propereſt Situation for a Bee-houſe, is where the Bees may enjoy the chearing Rays of the Sun, and not be too much expoſed to the Wind; it ſhould face ſomewhat to the South-Weſt; and be properly fixed to Poſts driven in the Ground for that Purpoſe, leaſt it ſhould be overturned by the High Winds. Many indeed have preſcribed that the Hives ſhould be placed with their Doors or Entrances towards the Eaſt, that the Sun may ſhine on them in the Morning, and make the Bees more early to follow their Work; but, upon Experience, I would recommend the ſetting of them more towards the Weſt, that, being often late at their Work, they may have more Light (their Eyes being weak) to enter their Hives, and alſo that they be not prejudiced by the Eaſterly Winds, which are cold and hurtful. Some Bees will be late at their Work after Sun-ſet, and if, when they return they find it dark about the Hive, they muſt lie abroad, if not altogether periſh, which would be very often the Caſe if the Mouth of the Hive faced the Eaſt. It may indeed ſometimes very properly face towards the South, but never on any Account towards the North.

Let the Bee-Houſe be near Home, for the better Opportunity of inſpecting it, and in a convenient Place where it will not be incommoded by the dropping of Water from the Eves of Houſes, Trees or Hedges. Smoke is alſo very offenſive to Bees, therefore Care muſt be taken not to let them ſtand near Brick-kilns, Brew-houſes, or any place where a long continuing Smoke may beat down upon the Hive. Let your Bee-Garden, or the Ground adjoining to it, be planted with Plumb, Cherry, Apple, Pear, and Gooſberry Trees, and interſperſed with Beds of various Kinds of Flowers, ſuch as Daffodils, Violets, Primroſes, Stock-Gillyflowers, Strawberries, Broom, Sage, Marigolds, Archangel, Hawthorn, Elder, Dewberries, Origanum, Hyſop, Borage, Parſley, Muſtard Seed, Red Roſes, Thyme, Pennyroyal, Holyoak, Lavender, Eyebright, &c. Dutch Clover, and Fields of mowing Graſs, where there is a ſucceſſion of Flowers, is excellent Paſture for Bees.

Among the various Flowers already enumerated, in which the Bees take the greateſt Delight, I have mentioned the Broom Flowers as one, but as there are two Kinds of Broom, I think it neceſſary to obſerve, that the *Spaniſh* is much preferable to the *Engliſh*, on Account of the Sweetneſs of its Flowers, which perfume the Air very agreeably, and from which the Bees extract more Sweetneſs than from any other Sort I have mentioned; and, when

the

the Bees have Flowers ſuitable to their Taſte, I have known them fill their Hive, both with Wax and Honey, in about a Month or five Weeks, if the Seaſon has proved fair and pleaſant.

Though Bees collect good Honey from moſt Herbs and Flowers, yet, as there are many which may be very prejudicial to the Honey, Care ſhould be taken to remove the Plants which afford noxious Juices, ſuch as Hemlock, Nightſhade, Red Poppy, Feverfew, Black Briony, &c. &c.

Boxwood and Yew ſhould likewiſe have no Place in the Bee-Garden, as the Juices imbibed from thoſe Plants will give the Honey a bitter diſagreeable Flavour; as is the Caſe with the *Corſican* Honey, taken Notice of by *Diodorus Siculus* and *Pliny*, the former of whom affirms that the Box Trees of *Corſica* corrupt, and embitter the Honey, which makes *Virgil's Lycidas* wiſh

Sic tua Cyrnæas *fugiant examina Taxos.*
——So may thy Bees refuſe
The baneful Juices of *Cyrnæan* Yews.

And *Pliny*, ſpeaking of the Excellence of Wax, after mentioning the *Punic*, the *Pontic* and the *Cretan* ſays, "*Poſt has* Corſica *(Cera)* "*quoniam ex Buxo fit, habere quandam Vim Me*"*dicaminis putatur.*"—After theſe the *Corſican* Wax, becauſe it is made from the Box

"Tree, is reckoned to have a certain medi-"cinal Virtue."

We are told by a late Writer, that, when *Corſica* was ſubject to the *Romans*, a Tribute was impoſed upon it of no leſs than two hundred thouſand Pounds of Wax yearly; but this is no Proof of the Excellence of their Honey, which, according to *Ovid*, was of very ill Account, and ſeems to be rather the Reaſon why the tributary Tax was exacted in Wax, in Preference to Honey.

CHAPTER III.

Of the proper Method of Swarming and Hiving BEES.

THE Time of Bees ſwarming is generally in the Months of *May* and *June*, and ſometimes in *July*, but the latter is very late, and is commonly called a Caſt or Colt; they are fewer in Number than the earlier Swarm, and ſeldom live through the Winter without feeding. They ſhould be hived in rather ſmaller Hives than the firſt Swarms, that, by lying cloſer together, they may the better nouriſh and keep themſelves warm.

The Hours of their ſwarming are for the moſt Part about Twelve o'Clock at Noon, never before Nine, and ſeldom after Four in the Afternoon. We may give a pretty tolerable Gueſs that their Swarming is near, by the uncommon Number of Bees at the Mouth of the Hive, which may very probably hang down below the Board on which it ſtands; and if, by liſtening at the Hive at Night, you hear a different ſhrill Note which is made by the Queen, you may depend they will ſwarm the next Day, if the Weather be dry and warm.

The Swarm which leaves the Hive does not conſiſt of young Bees only, as many have affirmed, for I am confident that they go out promiſcuouſly, old and young together.

If they work a Comb under the Board, as is ſometimes the Caſe, it is a certain Sign they will not ſwarm; when this happens, raiſe the Hive, and put one of my flat-topp'd ſliding Hives under it; then gently ſweep them down that hang under the Board, and deſtroy their Works, and the Bees will take to the bottom Hive.

Always chooſe a Hive proportionable to the Size of your Swarm, and prepare to hive them as ſoon as poſſible, leſt they ſhould riſe again, and to prevent another Swarm joining with them.

'Tis not unuſual to ring a little Bell, or tinkle a Braſs Pan, at the Time they ſwarm; It is likewiſe a common Method to dreſs the Hives with Honey, Balm, &c. I mention theſe becauſe they are Cuſtoms of long ſtanding. The tinkling of Bells is of little Uſe, as the Bees will always ſettle near the Hive; and as to dreſſing the Hives, I by no Means recommend it, as the Bees like a clean new Hive much beſt.

If the Swarm ſhould riſe in the full Heat of the Day, and the Sun ſhines hot upon them, they will not continue long in their firſt Situation; for when they find they have got all their Company together, they will ſoon uncluſter, riſe again, and fly to ſome particular Spot which has been fixed upon for that Purpoſe by detached Parties, who return and acquaint the Swarm therewith. But if no convenient Place can be found before their ſwarming Time for that Day is over, and the Bees ſtill continue unhived, they will hang there till the next Day; therefore I would adviſe to hive them as ſoon as poſſible, for, if the Day is not too far ſpent, they will immediately ſet to work in their new Habitation, and not only make a conſiderable Quantity of Comb, but alſo fill much of it with Honey before Night.

The Manner of hiving them muſt be regulated chiefly by the Nature of the Places upon which they alight. If they ſettle on a dead Hedge, or upon the ground, ſet a Hive over them, putting Props under it if neceſſary, and with a large Spoon, ſtir them gently underneath, and they will go in. If they ſhould happen to ſettle upon a ſmall Bough, No. 6, Plate 1, hold it ſteady with one Hand and cut it off with a ſharp Knife, lay it on a Table Cloth without diſturbing the Bees, place the Hive over them and they will take to it; or, if you cannot conveniently ſeparate the Bough from the Body of the Tree, you may ſhake or ſweep them off into the Hive. If the Sun ſhines hot upon it, ſhade it with a few Boughs; but let it remain near the Place where the Bees ſettled till the Evening, at which Time move it to the Bee-Houſe or Place where it is to remain.

If they have hung for a conſiderable Time to the Place where they firſt ſettled, you will perhaps find it difficult entirely to diſengage them therefrom, as they will neglect their Labour, and hanker about the Place for ſome Days afterwards. The beſt Method to prevent this is, by rubbing the Branches with Rue, or any Kind of Herb diſagreeable to them.

Swarms ſeldom return home again when they are well ſettled, and if you find them inclinable ſo to do, depend upon it ſome Accident has happened to the Queen, which you will eaſily perceive by their mournful murmuring Noiſe, running in a diſtracted Manner before and about the Sides of the Hive. When you obſerve this, immediately ſeek about for her, beginning at the Stock where ſhe roſe, and purſuing the Track the Swarm took at ſetting out; you will ſeldom miſs of finding her, for ſhe is never alone, but encompaſſed with a Guard, who would ſooner periſh than leave her in Danger.

When you have found her, take her up gently, and put her to the Swarm, and you will ſoon find the Cauſe of their Diſſatisfaction removed by the Arrival of the Queen.

The greateſt Care imaginable muſt be taken to have your Hive clean and neat, free from looſe Straws or other Obſtacles, which will create great Trouble to the Bees, if left to them to remove.

CHAPTER IV.

Of ſeparating the Honey from the Wax.

WHEN you would ſeparate the Honey from the Wax, take it into a cloſe Room, rather warm than otherwiſe, that the Honey may drain the more freely, and keep the Doors and Windows ſhut, to obſtruct the Bees Entrance, or elſe they will be very troubleſome, and fetch Part of the Honey away again.

Lay aſide ſuch Combs as have young Bees in them, as they would give your Honey a bad Flavour.

When you have thus ſeparated the Combs and the Bee Bread, which ſhould be melted with the Wax, let ſuch as are very fine, be nicely drained by themſelves without the leaſt preſſing whatever, only divide each Comb in ſuch Manner that the Cells may be open at both Ends, and place them upon a Sieve or coarſe Cloth, that the Honey may drain off pure and undefiled.

The Remainder of the Combs from which the Honey has been thus drained, together with thoſe which contain the Bee Bread, muſt be put in a coarſe Cloth, and ſqueezed or preſſed to get the Honey all out; This will make it inferior in Quality, and unfit for many uſes, therefore it ſhould be put in Pots by itſelf, to feed Bees with, for which Purpoſe (on Account of the Bee Bread that will be mix'd amongſt it, which is neceſſary to their Subſiſtence) it will be better than pure Honey. Then the Remainder, with all the empty Combs, and thoſe with the young Bees in them, which you had laid aſide, ſhould be put into a Copper with clean Water; make this boil gently over a ſlow Fire, keeping it conſtantly ſtirring. When it is melted, run it through a coarſe Cloth or Bags made for that Purpoſe, and put it into a Preſs to ſeparate the Wax, Let the Wax run from the Preſs into a Veſſel placed under it, into which put ſome Water to prevent the Wax from ſticking to the Sides. If this Proceſs of Boiling and Preſſing is repeated twice or even three Times, the Wax will be much purer and conſequently of greater Value. Set it in a Place where it may cool by Degrees, in Pans of the Size you would chuſe your Cakes, with ſome Water in them, to prevent its adhering to the Sides.

CHAPTER V.

Of feeding BEES *in the Winter.*

MANY Things are neceſſary for the Preſervation of Bees, but more eſpecially you muſt take Care to provide the light Stocks with a ſufficient Quantity of Food, which they are often unable to attain by their own Induſtry, either through the Inclemency of Seaſons, the Weakneſs of the Stock, or the Spoil made by their Enemies; and, ſometimes, by the ill-judged Management of their Owners, who, through Ignorance or Covetouſneſs, by robbing them beyond the Bounds of Reaſon, do not leave a ſufficient Quantity in the Hive to ſupport them at ſuch Time as they are unable to provide for themſelves. By this laſt unjuſt Way of proceeding, theſe poor induſtrious little Inſects are abſolutely ſtarved, and their greedy Maſters deſervedly experience the old Proverb, that *too much Covetouſneſs breaks the Bag.*

It is impoſſible to aſcertain what Quantity of Honey will ſerve a Hive of Bees the whole Winter, becauſe the Number in the Hive may be more or leſs, and becauſe in ſome Years the Spring is more forward than in others; but the beſt Method to ſupply the weak Stocks, if in one of my flat-topped Hives, is to place a reſerved Hive over it, with as much Honey in it as you think neceſſary; then pull back the Slider, and the Bees will ſupply themſelves.

There is a proper Machine (No. 4. Plate II.) for the Mahogany Hives. This Machine is made of ſolid Mahogany. There is a large Cavity turn'd out betwixt the Edge and the center Hole, which are both of the ſame Height: Fill this Cavity with Honey, over which lay the thin Bit of Board that is full of Holes; then put the Glaſs Cover in the Groove, and ſet the large center Hole in the Machine over that in the Top of the Mahogany Hive, and the Bees will come up immediately to feed, which you will ſee through the Glaſs. This Machine is equally uſeful for the flat-topped Straw Hives.

But for the common Hive, you may place under it a Pewter Diſh with liquid Honey, covering it with a Paper pierced full of little Holes, through which the Bees may draw up the Honey without daubing themſelves.

This Method of feeding them ſhould be uſed before the Bees are in abſolute Want of Food, otherwiſe they will be ſo poor and weak that they will not be able to come down. When that happens, it will be neceſſary to turn up the Mouth of the Hive in the Heat of the Sun, or near the Fire, and to drop a little liquid Honey among them.

By this Means you may preſerve the Stock when confined by the Inclemency of the

Seaſon; and continue it conſtantly, till the Weather changes.

To prevent the Cold, which would chill and even kill the Bees in the Winter, when they come down to the Bottom of the Hive to feed, I would adviſe to plaiſter up the Skirts of the Hive, and let the Entrance be very ſmall.

Never let the Hives be placed on Stones, for they are injurious to the Bees at all Seaſons, by reaſon of the Extremity of the Cold in Winter, and the intenſe Heat in Summer.

CHAPTER VI.

Of the Enemies and Diſeaſes to which BEES *are ſubject, and their Remedies.*

BEES themſelves, in the Autumn and Spring, are very often great Enemies to and rob one another, eſpecially in dry Seaſons, when the Honey-gathering is almoſt over: Then the Hives that are over-ſtocked with Bees, and have not Honey ſufficient for their Proviſion, will, through Neceſſity attack the old Stocks, which are thinned by over ſwarming, and carry away all their Honey. In order to prevent this, the beſt Method I can adviſe is to ſtop up the Entrance of the Hive attempted to be robbed, by making it ſo narrow that only a few Bees can enter at a

Time, by which Means the old Stock will be the better able to defend themſelves.

One would imagine the Moth to be an Enemy of no Conſequence; but herein we ſhall greatly deceive ourſelves, for, upon proper Inſpection, we ſhall find that the Moth is a greater Deſtroyer of Bees than all the reſt of their Enemies put together. She depoſits her Eggs under the very Skirts of their Hives, and the genial Warmth proceeding from the Bees gives life to the Eggs, the certain Means of their Deſtruction. Theſe Eggs, when hatched, produce a ſmall whitiſh Caterpillar, which ſpins itſelf a fine ſilken Webb, nearly reſembling that of a Spider, by which it ſecures itſelf from the Bees, who avoid them through Fear of being entangled therein. Theſe Caterpillars ſoon increaſe in Magnitude, and enlarge their Nets or Webbs till they can get at the Combs; then thruſting out their ſcaly Heads, which are Proof againſt the Stings of the Bees, they make ſuch terrible Havock in the Comb, that the poor diſtreſſed Inhabitants, unable to oppoſe them, are obliged to quit the Hive. The beſt Way to deſtroy them is frequently to lift up the Hive in a Morning, and kill all you can ſee; they in general lay on the Board, and under the very Skirts of the Hive, from whence let them and their Webbs be well cleared.

Mice are likewiſe very deſtructive to Bees; ſometimes they enter at the Door, but moſt commonly near the Top of the Hive. If you ſuſpect this to be the Caſe, ſet Traps about the Hives.

Waſps and Hornets muſt be deſtroyed, if poſſible, either by ſcalding Water, or placing Lime Twigs before the Holes, when you have diſcovered their Neſts, which will greatly leſſen their Numbers. Or place Bottles about half full of Sugar and Water where the Waſps frequent; they will go in to drink, and drown themſelves in the Liquor, not being able to get out of the Bottle again.

Spiders muſt be killed, and their Neſts broken down, otherwiſe they will deſtroy many Bees, and grow to an immenſe Bigneſs.

Carefully clear away Earwigs, Snails, and Ants, and keep the Bee-houſe as clean as poſſible from all Kinds of Vermin, more particularly from Millepedes or Wood-lice, which are very great Enemies to the Bees.

The Bees are ſometimes ſeized in the Spring with a Kind of Purging or Scowering: this is occaſioned by their feeding too greedily on the early Bloſſoms of the Elm, which throws them into a Surfeit, and will certainly kill them, unleſs timely prevented. The beſt Remedy I have found for this Diſorder is, to give them Plenty of Honey that hath Bee Bread preſs'd amongſt it, the more Bee Bread the better; at the ſame Time pound common ſalt very fine, and ſprinkle it thick upon the Board underneath the Hive.

CHAPTER VII.

Of the Queen Bee, the Working Bee, and Drone.

THE Queen Bee is conſiderably longer than the common working Bee, and rather larger, but not ſo large as the Drone. Her Shape and Colours are different from the common Bee: her Back is of a bright black; her Belly, even from the Top of the Fangs to the Tip of her Train, is clear, beautiful, and of a ſad yellow, ſomewhat deeper than the richeſt Gold, and her Legs are of the ſame Colour; but the Legs of the common Bees and Drones are Black, and their Bodies of a browniſh Caſt. The Head of the Queen Bee is rounder than that of the common Bee, her Fangs ſhorter, and her Proboſcis or Trunk not half ſo long, ſo that it would be impoſſible for her to provide Suſtenance for herſelf, were ſhe ever ſo induſtriouſly inclined, as ſhe would not be able to extend her Proboſcis, into the deep Socket of the Flower. Her Wings are of the ſame Size with thoſe of a common Bee, and therefore appear very ſhort in compariſon with the Length of her Body. Her nether Part is much longer and ſharper than that of the common Bee, and ſhe is arm'd with a very long Sting, but is unwilling to put it forth.—By the above Tokens, the Queen may eaſily be diſtinguiſhed from the other Bees.

Mr. *Butler*, in his Account of Bees, relates the following Experiment of his own:

“ Two Swarms being put together, the
“ Bees on both Sides made a murmuring
“ Noiſe at firſt, as diſcontented; but growing
“ Friends, and having agreed which Queen
“ ſhould reign, and which ſhould die, three
“ or four Bees brought one of them down
“ between them, as to Execution. She being
“ taken from the Executioners, and put into
“ the Hive again, the Tumult began afreſh,
“ and they continued fighting for an Hour,
“ until the poor Queen was brought forth
“ ſlain, and laid before the Door.”

Pliny aſſerts, that if the old Queen bring forth many young ones, leſt the Multitude of Rulers ſhould diſtract the Commonwealth, they kill the ſuperfluous, and caſt them out of the Hive.

It is impoſſible to aſcertain how many young Queens are bred in a Hive in one Seaſon. It depends in ſome Meaſure on the Fruitfulneſs of the Queen, but more particularly upon the ſurprizing Inſtinct that Nature has beſtowed on the working Bees, who fix upon as many Royal Eggs (which they find in the common Cells) as they judge will be neceſſary to become Queens: they then enlarge and alter the Shape of the common Cells, converting them into royal ones. Theſe Eggs produce Maggots, which the working Bees nurſe as tenderly, or rather more ſo than their own: For the firſt ſix or ſeven Days you may ſee them enter Head foremoſt into the Cells, with Nouriſhment for the Maggots; no ſooner is one come out than another goes in, and there are always four or five in waiting. This Nouriſhment or Food is white, with a blueiſh Caſt, and of different Conſiſtencies, ſuitable to the Age of the Maggot, and each working Bee depoſits a little. This I know by Experience, having ſeveral Times had the Opportunity of looking into the Cells whenever I thought proper, and I always found this white Nouriſhment increaſe in Quantity every Day, until the working Bees cloſe up the Cell; after which they aſſume different Changes from the Maggot to the Nymph, and then become Bees. But it is evident that, when the working Bees cloſe up the Cells, the Maggots therein, are big enough to feed themſelves on the Food they have in Store.

I have often taken Notice that an old Stock of Bees, in the Months of *May* and *June*, ſhall have only one Queen; and at that Time, by ſearching the Combs, I have ſometimes found four or five young Queens in different States, but in general not more than two or three: The firſt juſt ready to come out of the Cell; the ſecond in the Shape of a Bee, but has been ſome Days before it came to Perfection;

the reſt appeared as Maggots, different from thoſe of the common Bees, were in Royal Cells, and came to Perfection in about three Weeks. I have further obſerved, that, when the young Queens come to Maturity, they leave the Hive and go with the Swarm, from which it is evident that there is at no Time more than one Sovereign permitted in the Hive. Some Stocks of Bees will ſwarm two or three Times in a Seaſon; other Hives will not ſwarm at all, tho' well ſtocked with Bees, the Reaſon of which is, that the Queen has proved unfruitful, and thro' Age or Weakneſs has bred no young Queens, and without a young Queen there can be no Swarm. I have alſo obſerved, that a Hive ſhall be well ſtocked with Honey and Bees, and nevertheleſs they will all die in the Winter; this is occaſioned by the Loſs of the Queen, for when that happens they will forſake the Hive, and neither work nor eat, but fly about with a confuſed murmuring Noiſe, till the whole Hive is abſolutely loſt.

The Drone is a large Bee without a Sting, ſome are of opinion that it is a working Bee that has loſt its Sting; but this is erroneous, for no Perſon ever ſaw that a working Bee became a Drone.

Many Reaſons are alledged to prove the Drone to be the Male.—1ſt, Becauſe, notwithſtanding they are great Waſters of Honey, yet the Bees ſuffer them to remain quiet till they leave off breeding, and have conceived for the next Year; afterwards they begin to beat them away, which if they did not, the Drones would of themſelves naturally die before *October*; and from thenceforth all the Winter, until the Bees breed again, there is not a Drone to be ſeen. When they are quite gone, the Bees breed no more that Year, but only nouriſh and bring forth thoſe that are in the Cells.—2dly, Becauſe the more Drones there are, the greater will be the Swarms, and the fewer they are in Number, the leſs Honey will your working Bees produce. Tho' this may not ſeem reconcileable to Reaſon, it is an abſolute Fact; for if you kill the Drones of a Hive before they have done ſwarming and breeding, the Swarms will not come forth that were formerly bred, nor will the Stock breed any more, but continuing to bring in their Bee Bread as much as before, and having no young ones to conſume it, they lay it up careleſsly in their Cells, and take a Diſtaſte to it; and if you ſhould be lucky enough to preſerve them till their Time of breeding begins again, yet even then, finding themſelves barren, they will forſake the Hive, and mingling with ſtrange Bees, go away with them to their Drones.

By this I am convinced that the Bees do every Year breed Drones, as well as working Bees; and as ther is not the leaſt Doubt that the working Bees are the Females, it follows of Courſe that the Drones are the Males of the ſame Kind: and they are bred in the Drone Comb, of which there is one, and no more in every Hive.

The Drones are liberally provided for during the Summer; but when the Swarms are diſcharged, and (on the Approach of Autumn) there appears to be neither Time nor Warmth ſufficient to rear a new Family, then the Bees begin to perſecute the Drones. They are looked upon as uſeleſs and chargeable to the Community, and are no longer ſuffered to continue in the Hives; they are therefore ejected and killed, both old and young.

CHAPTER VIII.

Of the Generation of BEES.

AS Authors have differed ſo greatly with regard to the Generation of Bees, I ſhall forbear to quote the Opinion of others on this Head, and content myſelf with ſome particular Obſervations, the abſolute Reſult of my own Experience.

That they couple together, I make not the leaſt Doubt, though privily and apart by themſelves, which, whether it proceed from Modeſty, or through the admirable Inſtinct of Nature, I ſhall not preſume to determine; for though they were never obſerved ſo to join together, yet they certainly apply themſelves to that Buſineſs ſecretly within their Hives, or elſe abroad where there can be no Witneſſes.

I am fully convinced that the modern received Opinion, that the Queen Bee is the general Parent of the whole Stock, is abſolutely without Foundation. This I ſhall endeavour to prove by the following Experiment, which I have frequently made, to diſcover a Myſtery hitherto ſo uncertain:—I have a Method to make the Bees ſwarm, by which I have been clearly convinced that the Queen Bee is not the Breeder of the whole Stock. When an old Hive has been well ſtocked with Bees, and I was in full Expectation of their ſwarming, I have found myſelf greatly diſappointed, and could not tell in what Manner to account for it. To ſatisfy myſelf of the Reaſon, I took all the Bees out of the Hive, and marched them ſeveral Times over a Table covered with a white Cloth, at the ſame Time moving them about gently with a Spoon, in order to find out whether the young Queen was come to Perfection, but finding only one Queen, I immediately ſearched the Hive, and found a young one in her Cell, almoſt ready to come out; and (which more evidently proves that the Bees are not all produced by the Queen Bee) I have ſeveral Times cut out the Comb to which the young Queen's Cell was fixed

No. 5. Plate II. *e* the Queen's Cell) and ſtuck it up in another Hive, putting a ſufficient Quantity of Bees with it, and obſerved at the ſame Time that there were no young Bees in the other common Cells. Being fond of trying Experiments, at the End of ſix or ſeven Days I took the ſame Bees out of the Hive again, in order to ſee if the young Queen was yet come to Perfection, but I found ſhe was only then breaking out of her Cell, in the Manner a young Bird breaks from the Egg, when the Time of its Continuance in the Shell is expired. Upon this I ſearched ſeveral other Combs which were built in the Hive, and obſerved Eggs, and young Bees in the ſhape of Maggots, lying in a round Ring at the Bottom of almoſt every Cell; which is a ſufficient Proof that the young Queen could not have depoſited them in thoſe Cells, as at that Time ſhe was not come to Perfection herſelf.

From this Experiment it is evident that the Swarm was ſatisfied till the young Queen came to Maturity, and that the young Bees muſt have been produced by the working Bees and the Drones.

I think it admits of no Doubt but that the Drones are Males, from all the Reaſons before cited; and more ſo from another Circumſtance yet unnoticed, which is, that, by preſſing the Tail-end of a Drone betwixt your Finger and Thumb, there is a very plain

Demonſtration that it has the moſt viſible Marks of the maſculine Gender.

I am likewiſe of opinion that the Queen Bee (ſo far from being the Mother of all) breeds none but Queens, and that ſhe herſelf copulates with the Drones, as I have frequently (in the Glaſs Hives) obſerved many of the Males attending her at the Times of her breeding, although at other Times they ſeem to pay leſs Reſpect to her than to the common Bees.

CHAPTER IX.

DIRECTIONS *to make* MEAD *of an agreeable Flavour, and much wholeſomer than Foreign Wines.*

TO every Gallon of Water, put four Pounds of fine Honey; boil this Mixture, and ſkim it while any Scum ariſes. Into a Hogſhead of this Liquor put eight Ounces of Hops, twelve Ounces of Ginger beaten into ſmall Pieces but not pulveris'd, and four Ounces of All-Spice, and boil it about ten Minutes before you take it off the Fire. Put it into a Tub, and, when almoſt cold ſpread a Toaſt round the Quartern Loaf with ſweet Ale Yeaſt, and lay to your Liquor. Two Days afterwards put it into a Caſk, and let it ferment, filling it up every Day till it has done hiſſing, then bung it cloſe down. In about two Months let it be rack'd off from the foul Lees into a freſh Caſk, and let it ſtand in a cool Cellar. If you love it ſweet, it will be fit for fining in ſix Months, but if you let it ſtand a Year it will fine itſelf and be little inferior to Sack. Then bottle it off, and it will not only keep for Years, but improve by Age.

I have thus far compleated my propoſed Treatiſe, and ſuch Gentlemen, Ladies, and others, as may think proper to favour me with their Commands, will find conſtant Attendance, at my WAREHOUSE, No. 326, *Holborn*, to ſupply their Orders with Bees, Bee-houſes, and all Sorts of my new-invented Mahogany, Glaſs, and Straw Hives, which are well known to exceed all others; they are ſo contrived that the Bees may be ſeen at Work in their different Apartments, without the leaſt Danger, or Poſſibility of being ſtung. The rational Mind will be delighted beyond Conception to ſee the wonderful Works of thoſe admirable Inſects, who depoſit the pureſt Honey in the Glaſſes at Top. The Combs are very white, and the Honey of a remarkable fine Fragrance and clear Colour, far ſuperior in Quality to that which is made in common Hives, and may be taken at Pleaſure, without Injury to the Bees. No Perſon who has once taſted Honey thus procured, will be able to eat ſuch as is ſold in general.

A great Number of the Hives may be ſeen in Uſe at any of my Apiaries, by giving timely Notice, and one Mahogany Hive, with the Bees working in it, is generally kept at my Warehouſe in Town for the Inſpection of the Curious.—Where may be had Wholeſale, Retail and for Exportation, fine Bees Wax, Sealing Wax, Wafers and Wax Candles; alſo genuine Honey of the following Sorts, *viz.* Fine Honey-comb made in the Glaſs Hives, and a particular pure Sort of Virgin Honey, gathered in the Spring, by my own Bees, and extracted from the fineſt Combs in the moſt delicate Manner; this Honey is recommended by the moſt eminent Phyſicians for ſpreading on Toaſt ſweetening Tea, &c. it preſerves the Lungs, and prevents many of the worſt Diſorders, and is a certain Cure for ſeveral others; particularly the Gravel, Coughs, Hoarſeneſs, Aſthmas, and Conſumptions. Honey proper for making Mead; Real *Minorca*, *Narbonne*, and other foreign Honey, in Pots of every Size.

FINIS.